

MODULE III

MISCELLANEOUS UNITS

III.A. APPLICABILITY

The Conditions of this Module apply to the chemical neutralization by oxidation treatment of chemical agent identification set (CAIS) components in the Rapid Response System. This permit only allows the Rapid Response System equipment to be used within the Deseret Chemical Depot. A separate permit must be obtained before this equipment may be used at other Utah facilities.

III.B. RAPID RESPONSE SYSTEM EQUIPMENT

The Rapid Response System shall consist of a mobile trailer with glove box, treatment reactor, 30-gallon waste storage containers, agent identification and monitoring instrumentation, glovebox exhaust carbon filter system and ancillary support equipment.

III.C. WASTE CODE LISTINGS

- III.C.1. The Permittee may only treat CAIS components containing sulfur mustards (H/HS/HD) and nitrogen mustard (HN-1), their naturally occurring chemical breakdown compounds, the associated chemical additives (CK, GA simulant, CG, CN, DM, PS and chloroform), contaminated packing materials and the residues associated with the following waste codes: D002, D004, D005, D006, D007, D008, D009, D010, D011, D019, D022, D028, D034, D039, D040, D043, F999, P033, P095, and P999 as defined in R315-2-10. The Permittee shall only treat chemical agent identification sets that are in permitted storage at Deseret Chemical Depot at the time of permit issuance.
- III.C.2. Not later than ninety (90) days after the effective date of this permit, the Permittee shall submit, for the Executive Secretary's approval, a completed reactor study, including reaction rates, for nitrogen mustard (HN-3). Upon approval by the Executive Secretary, treatment of nitrogen mustard (HN-3) shall be incorporated into this permit as a class 1 modification with prior approval as specified in R315-3-15, and nitrogen mustard (HN-3) shall be included with the list of compounds that can be treated under condition III.C.1. No nitrogen mustard (HN-3) shall be treated in the Rapid Response System until the reactor study is approved by the Executive Secretary.
- III.C.3. Not later than ninety (90) days after the effective date of this permit, the Permittee shall submit, for the Executive Secretary's approval, completed distal end validation studies for Lewisite (L) for MINICAMS as they will be used at Deseret Chemical Depot. DAAMS

tubes validation study will be provided to the Executive Secretary for approval prior to treatment of Lewisite (L). Upon approval by the Executive Secretary, treatment of Lewisite (L) shall be incorporated into this permit as a class 1 modification with prior approval as specified in R315-3-15, and Lewisite (L) shall be included with the list of compounds that can be treated in condition III.C.1. No Lewisite (L) shall be stored or treated in the Rapid Response System until the validation studies have been approved by the Executive Secretary.

- III.C.4. The Permittee shall be prohibited from treating in the Rapid Response System any waste code not identified in Condition III.C.1.
- III.C.5. All treatment residues generated from the chemical oxidation of chemical agents that have been treated below the treatment goal of 50 ppm of chemical agent will be considered acutely toxic and will be assigned the State of Utah hazardous waste code F999. Filters that have been exposed to chemical agent and any treatment residues containing greater than 50 ppm chemical agent will carry the waste code P999.

III.D. WASTE MANAGEMENT

- III.D.1. The Permittee shall comply with the requirements of the Waste Management Plan, Attachment C-4, in the Rapid Response System Part B Permit Application.
- III.D.2. The unopened CAIS shipping containers in Building 4553 shall be kept in the permitted CAIS storage vault until the shipping containers are entered into the process for treatment. The shipping containers housing the CAIS items may not be left outside the permitted CAIS storage vault for periods exceeding eight (8) hours. All shipping containers holding CAIS wastes not in process must be returned to the permitted CAIS storage vault before operating personnel leave Building 4553 at the completion of their work shift.
- III.D.3. **Offsite Waste Management Controls**
- III.D.3.a All hazardous waste generated as a result of operations by the Rapid Response System shall be sent offsite for treatment by a permitted hazardous waste incinerator.
- III.D.3.b All hazardous waste generated as a result of operations by the Rapid Response System meeting the requirements of R315-8-22 shall be placed in the appropriate DOT approved shipping containers.
- III.D.3.c All hazardous waste generated as a result of operations by the Rapid Response System shall be compatible with containers used for storage and transportation.

- III.D.3.d Transporter Requirements. The Permittee shall enter into a contract with a hazardous waste transporter requiring:
- III.D.3.d.i In the event of release of material listed in R315-11(e)(1) or R315-2-10(e)(1) from the containers of hazardous waste resulting from operations by the Rapid Response System during transportation to the permitted hazardous waste incinerator, the transporter shall respond in accordance with 49 CFR 172 Subpart G and 29 CFR 1910.120 (g) and (q), and shall orally notify the Deseret Chemical Depot Emergency Operations Center within 24 hours of the initial release.
- III.D.3.d.ii Condition III.D.3.d.i shall be defined in the government contract with the hazardous waste transporter as a provision allowing for termination by default pursuant to the Federal Acquisition Regulation (FAR) 52.249-8(a)(iii) or other clause as applicable. Failure by the hazardous waste transporter to meet this condition of the contract shall result in the following actions by the Permittee:
1. Oral notification to the Utah Department of Environmental Quality of the failure to meet this condition;
 2. Immediate recommendation to the Contracting Officer for termination of the contract;
 3. In the event of contract termination, the recovery and placement into permitted storage of any P999 or F999 hazardous waste and spill residue from operations of the Rapid Response System still under the control of the transporter at the time of contract termination; and
 4. In the event of contract termination, entering into a contract with another hazardous waste transporter for supplies or services similar to those terminated.
- III.D.3.e Incinerator Requirements. The Permittee shall enter into a contract with a permitted hazardous waste incinerator requiring:
- III.D.3.e.i Prior to treatment, personnel of the permitted hazardous waste incinerator shall keep the containers of P999 and F999 hazardous waste resulting from operations by the Rapid Response System closed at all times while such containers are under the control of the permitted hazardous waste incinerator.
- III.D.3.e.ii If one or more profile samples are required by the permitted hazardous waste incinerator, those samples shall be collected only at Deseret Chemical Depot by personnel from the permitted hazardous waste incinerator or by the Permittee.

- III.D.3.e.iii The permitted hazardous waste incinerator shall treat the containers of P999 and F999 hazardous waste resulting from operations by the Rapid Response System as soon as possible, not to exceed 60 days from the time of waste pickup from Deseret Chemical Depot.
- III.D.3.e.iv The permitted hazardous waste incinerator shall not commingle P999 and F999 hazardous waste resulting from operations by the Rapid Response System with any other hazardous waste to be treated at the permitted hazardous waste incinerator except as required to facilitate incineration (e.g., fuel blending).
- III.D.3.e.v For each shipment of P999 and F999 hazardous waste received at the permitted hazardous waste incinerator, a representative of the permitted hazardous waste incinerator shall notify the Permittee for confirmation of receipt for each shipment. Such notification shall occur as soon as possible, but not later than two business days after receipt of a shipment. The permitted hazardous waste incinerator shall also provide a certificate of destruction for each container of P999 and F999 hazardous waste received and treated at the permitted hazardous waste incinerator.
- III.D.3.e.vi In the event of a release of material listed in R315-2-11(e)(1) or R315-2-10(e)(1) from the containers of hazardous waste resulting from operations by the Rapid Response System during treatment at the permitted hazardous waste incinerator, the personnel at the permitted hazardous waste incinerator shall respond in accordance with 29 CFR 1910.120 (g) and (q), and shall orally notify the Deseret Chemical Depot Emergency Operations Center within 24 hours of the initial release.
- III.D.3.e.vii Conditions of III.D.3.f. shall be defined in the government contract with the permitted hazardous waste incinerator as provisions allowing for termination by default pursuant to FAR 52.249-8(a)(iii) or other clause as applicable. Failure by the permitted hazardous waste incinerator to meet the conditions of this contract shall result in the following actions by the Permittee:
1. Oral notification to the Utah Department of Environmental Quality of the failure;
 2. Recommendation to the Contracting Officer for contract termination;
 3. In the event of contract termination, the recovery and placement into permitted storage of any untreated P999 and F999 hazardous waste and containers from operations of the Rapid Response System still present at the incinerator at the time of contract termination; and
 4. In the event of contract termination, entering into a contract with another permitted hazardous waste incinerator for supplies or services similar to those terminated.

- III.D.3.f As a measure of quality assurance for offsite hazardous waste management, the Permittee shall perform the following:
- III.D.3.f.i Conduct an audit of the permitted hazardous waste incinerator receiving the P999 and F999 hazardous waste resulting from operations by the Rapid Response System initially upon contract award, at the time P999 and F999 hazardous waste is first treated, and every six months thereafter during the duration of the contract and extensions thereof. Each audit shall consider waste management operations, including the incinerator's operating record, incinerator operating parameters including fuels blending, verification of waste destruction, and the quality assurance program.
- III.D.3.f.ii Provide the Utah Department of Environmental Quality with a written report of the permitted hazardous waste incinerator audit within 30 days upon completion of the audit.
- III.D.3.g. Analytical Laboratory Requirements. For samples of P999 and F999 hazardous waste generated by the Rapid Response System sent offsite for RCRA analysis, the Permittee shall enter into a contract with the analytical laboratory requiring, at a minimum:
- III.D.3.g.i In the event of a release of material listed in R315-2-10(e)(1) or R315-2-11(e)(1) from the containers of hazardous waste resulting from operations by the Rapid Response System during analysis at the analytical laboratory, the personnel at the analytical laboratory shall respond in accordance with 29 CFR 1910.120 (g) and (q), and shall orally notify the Deseret Chemical Depot Emergency Operations Center within 24 hours of the initial release.
- III.D.3.g.ii The Permittee shall provide a certification statement with the manifest accompanying the waste or the chain of custody form accompanying the laboratory sample. The certification statement shall certify that the waste or laboratory sample contains less than 50 ppm of chemical agent and shall provide the measured analytical value of chemical agent present.
- III.D.3.g.iii The Permittee shall provide a safety briefing for the analytical laboratory personnel, including symptoms of chemical agent exposure and exposure treatment methodology.
- III.D.3.g.iv Conditions of III.D.3.g.i through III.D.3.g.iv shall be defined in the government contract with the analytical laboratory as provisions allowing for termination by default pursuant to FAR 52.249-8(a)(iii) or other clause as applicable. Failure by the analytical laboratory to meet the conditions of this contract shall result in the following actions by the Permittee:
1. Oral notification to the Utah Department of Environmental Quality of the failure;

2. Recommendation to the Contracting Officer for contract termination;
3. In the event of contract termination, the recovery and placement into permitted storage of any untreated P999 and F999 samples from operations of the Rapid Response System still present at the analytical laboratory at the time of contract termination; and
4. In the event of contract termination, entering into a contract with another analytical laboratory for supplies or services similar to those terminated.

III.E. SYSTEM DESIGN AND CONSTRUCTION

- III.E.1. The Rapid Response System components shall be constructed in accordance with the design drawings and specifications found in the Engineering/Design Documentation sections of the Rapid Response System Part B Permit Application dated January 1998.
- III.E.2. Any changes made to the Rapid Response System after the issuance of the permit shall be made in accordance with the permit modification procedures specified in R315-3-15 and R315-3-17.

III.F. MODIFICATIONS

- III.F.1. In the event that a change to the physical configuration of the Rapid Response System is deemed necessary, such changes shall be implemented in accordance with R315-3-15 and R315-3-17.
- III.F.2. In the event that it is deemed necessary to add new equipment and systems, such additions shall be implemented to the Rapid Response System in accordance with permit modification requirements found in R315-3-15 and R315-3-17.

III.G. RAPID RESPONSE SYSTEM DESCRIPTIONS

- III.G.1. The Rapid Response System shall be configured as shown in Drawings AE95-RRS-000-00, AE95-RRS-200-01 and AE95-RRS-200-02 submitted with the RRS Part B Permit Application dated January 1998.
- III.G.2. The Rapid Response System components shall be constructed in accordance with the design drawings and specifications found in the Engineering/Design Documentation sections of the Rapid Response System Part B Permit Application dated January 1998.

III.H. SYSTEM TEST PLAN

Operation of the Rapid Response System shall be considered a treatment process to verify that the components in the mobile facility will function as designed and to provide the Army with data to use this equipment at other possible CAIS sites. The only permitted treatment operations in the Rapid Response System are the processes listed in Table 4-2 of Attachment 4.

III.I. RAPID RESPONSE SYSTEM OPERATING REQUIREMENTS

- III.I.1. The Permittee shall not place hazardous wastes or treatment reagents in the Rapid Response System if they could cause the Rapid Response System, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.
- III.I.2. The Rapid Response System process and equipment shall be operated in accordance with the procedures described in the Rapid Response System Part B Permit Application dated January 1998.
- III.I.3. The Permittee shall maintain secondary containment of the maximum volume of liquid which will be in the system as each batch of agent is treated in the Rapid Response System.
- III.I.4. No more than three hundred ninety (390) CAIS items shall be maintained in the glove box of the Rapid Response System at one time.
- III.I.5. The Rapid Response System may treat up to a maximum volume of 132 milliliters of CAIS hazardous wastes per reactor batch. All dunnage from each CAIS shipping container shall be processed prior to introducing a new shipping container into the glovebox. Contaminated dunnage shall be treated in accordance with Attachment 2.
- III.I.6. All glass CAIS items that are not leaking, except those containing solids (e.g., charcoal), shall be interrogated by the Raman Spectrophotometer, even if the vials are etched with any identification markings. A log shall be kept to track the following: (a) the ultimate disposition of the CAIS items (type of treatment or repackaging for industrial chemicals), and (b) the number of CAIS items where no conclusive identification could be made (either via Raman spectra, container configuration, or markings).
- III.I.7. If any item or material can not be accurately identified by either the markings, container configuration, or the Raman Spectrophotometer, the provisions of Appendix 2-2 (Unexpected Operations) of Attachment 2 shall be implemented. In the event that an unexpected item is discovered, the Executive Secretary shall be notified within 24 hours in accordance with I.Y. A Field Procedure Team shall be convened to determine the ultimate

disposition of the unidentified item. An unidentified item shall be appropriately containerized and placed in permitted storage within 72 hours after it is discovered.

- III.I.8. CAIS items shall be treated by intermittent agitation in the reactor vessel with the appropriate decontamination solution for a minimum of 15 minutes per batch before the waste material is transferred to the thirty (30) gallon waste drum.
- III.I.9. One carbon filter unit shall be on line at all times from the time that any chemical agent or CAIS chemical has been introduced into the Rapid Response System until the equipment has been thoroughly decontaminated and closed in accordance with II.J, except during carbon air filter replacement conducted in accordance with III.I.12.
- III.I.10. The carbon air filter system shall be maintained in good working order. If there is any malfunction in the carbon air filter system or the carbon air filter exhaust agent monitors, no additional CAIS shall be placed into the Rapid Response System until all the carbon air filter equipment and carbon air filter exhaust agent monitors are fully functional.
- III.I.11. The activated carbon air filtration system filter units shall be monitored for operation and for the presence of chemical agent (H, HD, HN-1, HN-3 and L) and CAIS chemicals (CK, CG, PS and chloroform) in accordance with Attachment 8.
- III.I.12. If any chemical agent or CAIS chemical is detected in the exhaust stack from the activated carbon filter system, no additional chemical agent or other waste shall be placed into the Rapid Response System until the carbon air filter system is operational and available in accordance with III.I.10.
- III.I.13. If chemical agent or industrial chemical breaks through the ASZM-TEDA carbon filter element, the element must be replaced. The carbon air filter element shall be replaced with a new carbon air filter element and the subsequent carbon air filter element installation shall be verified by the Rapid Response System Site Supervisor, in accordance with II.E.6, for chemical agent operations prior to placing the carbon air filter system back into service. All filter bank replacements shall be entered into the operating record. Response procedures will be initiated by any agent alarm as defined in II.N.2 and II.N.3 and, for any industrial chemical alarm, in accordance with Attachment 8, paragraph 8-7. DAAMS tubes will be pulled from the filter midbed and analyzed. MINICAMS and DAAMS will monitor the filter exhaust and the workspace area. For any agent release outside of engineering control, all DAAMS tubes collected from the filter exhaust and the workspace will be analyzed. Treatment operations in progress will be continued to completion. If the presence of agent or industrial chemical is confirmed, treatment operations in progress will be completed and then treatment operations will cease until the filter elements are changed. Any malfunction

of a MINICAMS or DAAMS system will initiate corrective action in accordance with Attachment 8, paragraph 8-9.

III.I.14. Release of agent in excess of 1 CCL from the air filtration system to the environment shall be considered a potential endangerment to human health and the environment as described in Condition I.Y.2.

III.I.15. A second carbon air filter exhaust fan shall be maintained as a backup unit. If a backup fan is unavailable, the Rapid Response System shall be placed into a shut down mode. No additional waste may be added into the system until at least one carbon air filter element is operational and the backup fan is returned to good working order.

III.J. PROVISIONS FOR IGNITABLE OR REACTIVE WASTES

The Permittee shall comply with R315-3-6.8 and R315-8-2.8.

III.K. PROVISIONS FOR INCOMPATIBLE WASTES

The Permittee shall comply with R315-3-6.8 and R315-8-2.8.

III.L. INSPECTION SCHEDULES

III.L.1. The Permittee shall inspect the Rapid Response System trailer and equipment, in accordance with Attachment 6, on each operational day prior to commencing operations. An operational day shall be any day when Rapid Response System personnel will enter the operations trailer with intent to treat waste in the glove box.

III.L.2. If any inspection deficiency (Unsatisfactory Status) is noted on the weekly or daily inspection forms, new CAIS material shall not be added to the Rapid Response System until that deficiency has been corrected.

III.N. CLOSURE

The Rapid Response System shall be closed in accordance with R315-8-7 and the Closure Plan identified in Condition II.J before the Rapid Response System operations trailer can be transported off the Deseret Chemical Depot.

III.O MAINTENANCE OF THE HAZARDOUS WASTE MANAGEMENT UNITS

The Permittee shall maintain the treatment unit and associated equipment consistent with the details and facility drawings in Attachment 10.